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that in former days the Miskito made rude canoes of plaited withes and made them waterproof by smearing a thin layer of clay over them. The Ladinos have corrupted the name into "pipante." The Miskito of the upper Rio Coco, who know no other boat but the pitpan, apply the name *dori* or *duri* nowadays to a keeled or unkeeled canoe, but among their kindred living near the sea this word is restricted to the former type. In all Sumu dialects both types are called *kuriñ*.

BATEAU.—A large form of pitpan, known by the French name "bateau," is generally used to transport cargo on the rivers of the Mosquito Coast. It is made by enlarging an ordinary pitpan. The latter is cut lengthwise in two halves of equal size; boards are then inserted, and the two parts are joined again. The sides are also raised. Such bateaux are generally manned by six paddlers and take about 5,000 pounds of freight. On some of the larger rivers there are operating some bateaux measuring up to 60 feet in length, 4 to 6 feet in width, and taking up to 100 Spanish quintals (say, 4,600 kg., or 10,145 English pounds) of merchandise. These are manned by from 10 to 12 Indians. A small cabin or "carroza" for the passengers is made immediately in front of the captain's seat, who steers the boat from the stern with the aid of a gigantic paddle. Such a cabin may be made of canvas cloth or merely of bamboo and large leaves; it affords protection from rain and sunshine.

MAKING OF A DUGOUT.—The manner of cutting trees and hollowing them out in former days was evidently that practiced in other parts of the New World before the arrival of the Spaniards. A ring was made with the stone ax through the bark and base of the tree, thus causing it to dry. Then fire was applied, and the wood was cut away as it charred. This process was repeated until finally the tree was felled. The hollowing out of the stem was also effected by alternately applying fire and the stone ax. Water was always kept at hand in order to quench the fire so as not to waste more wood than was necessary.

The width of a dugout is enlarged after it has been filled with water during a number of days; it may then easily be stretched and widened by inserting sticks. In former days rough dugout canoes used to be furnished by some of the Sumu tribes as a sort of tribute to the King of the Miskito.

TREES USED IN CANOE MAKING.—Following is a list of the various trees which are made into canoes by the Indians under consideration:

Mahogany (M. and S.: *yulu; Swietenia macrophylla* King) is the tree most commonly used, as it is very abundant on the Mosquito Coast; canoes from this wood are very durable, but rather heavy, and they are often attacked by boring worms.

Cedar (M.: *yulam, wiñkur;* S.: *subun, wiñkur; Cedrela* sp.). Canoes hollowed out from this tree are very light and comparatively du-

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396 rable; the wood splits easily, but it has the advantage of not being subject to the attack of worms.

824 The guanacaste tree (M. and S.: *tuburus; Enterolobium cyclocarpum* Griseb.) is the one preferred by the Black Carib for the making of canoes; they allow the tree to "season" on the ground for a few months before starting to hollow it out. The wood is as light as cedar.

From the silk cotton tree (M.: *sisin;* S.: *panya, paniki; Ceiba pentandra* Gaertn.) very large dugouts may be made, but its light, whitish wood is not durable. Owing to certain superstitions regarding this tree, it is rarely used in boat making. (See Religion, etc.)

Saba (M.: *swa;* S.: *saba; Carapa guianensis* Aubl. or *Guarea caoba* C. DC.). The wood from this tree can scarcely be distinguished from mahogany in color and general appearance, but it is less durable.

Santa Maria (M. and S.: *krasa; Calophyllum brasiliense* var.) is seldom used, and it is suitable only for small canoes, as the tree does not attain such a great size as the aforementioned varieties. The wood is very durable, but it is rather heavy.

Emery (*Vochysia hondurensis* Sprague) is occasionally made into dugouts in the southern section of the Mosquito Coast. The wood resembles that of the silk cotton, but it is more lasting. It has, however, the disadvantage of soon becoming water-logged; besides, it rots immediately where a nail has been driven in.

The banak or cebo tree (M. and S.: *banak; Virola merendonis* ?) is a large tree which is also occasionally made into canoes.

501 CANOE POLES.—Canoes are propelled by long poles or by paddles. The poles (M.: *kahra, kahara;* T.: *kaha pan;* P.: *kaha pana, kuriñ pana;* U.: *pan sañ*) are used in shallow water with rapid current and hard bottom. In a small "cranky" pitpan this method of travel is not agreeable, especially to a newcomer; each time the boatmen, who stand up at the bow, push with their poles, the canoe begins to lurch as if it was going to upset. The captain sits at the stern and steers with a paddle.

PADDLES.—The paddles (M.: *kwahi;* T. and P.: *kawâi;* U.: *wâihna*) are broad bladed and made generally of mahogany or cedar. They measure from 4 to 5 feet in length and are often roughly polished. Larger paddles are also used, especially by the steersman, for the propelling of the bateaux. At its upper extremity the paddle terminates into an enlargement or "ear" (M.: *kyama;* S.: *tapani, tapaka*), which serves as grip to one hand, while the other hand grasps the paddle about 2 feet farther down. The paddles are moved vertically along the gunwale of the boat, the blade forcing back the water with main strength applied and very quick strokes.

SAILS.—In former days the Miskito are known to have employed sails (M.: *kwaltara;* T., P.: *asna nohni;* U.: *asna nohka*[35]) of native

[35] These names literally mean "large cloth."